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# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE ATTORNEY DOCKET NO. 029437-0108

Applicants:

Yasuhiro OKAMOTO et al.

Title:

FIELD-EFFECT TRANSISTOR HAVING GROUP III

NITRIDE ELECTRODE STRUCTURE

Appl. No.:

10/538,739

Filing Date:

11/09/2005

Examiner:

Sarah Kate Salerno

Art Unit:

2814

Confirmation

7288

Number:

# INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

## TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(d), before payment of the issue fee.

# CONCISE EXPLANATION OF RELEVANCE

The documents listed on the attached PTO/SB/08 were cited as being relevant during the prosecution of the corresponding Japanese application. Document C1 is the U.S. counterpart of Document C3. A partial English translation of the Japanese Office Action of July 18, 2008, follows:.

- < Regarding patent requirements >
- Claims 1 through 3
- Reason 2
- Cited Literature 1 through 3
- Remarks

See paragraphs (0031) through (0055), Figure 4, etc. in Cited Literature 1.

In particular, Figure 4 and descriptions related to Figure 4 in Cited Literature 1 disclose a GaN MESFET comprising a heterojunction consisting of an n-type GaInN contact layer 14 and an n-type GaN layer 13.

See Figure 3, descriptions related to Figure 3, etc. in Cited Literature 2. See paragraph (0012), Figure 1, etc. in Cited Literature 3.

- Claim 4
- Reason 2
- Cited Literature 1 through 4
- · Remarks

See paragraph (0049), etc. in Cited Literature 4.

- Claim 8
- Reason 2
- Cited Literature 1, 2, and 5
- Remarks

See paragraphs (0031) through (0055), Figure 4, etc. in Cited Literature 1.

In particular, Figure 4 and descriptions related to Figure 4 in Cited Literature 1 disclose a GaN MESFET comprising a heterojunction consisting of an n-type GaInN

contact layer 14 and an n-type GaN layer 13.

See Figure 3 and descriptions related to Figure 3 in Cited Literature 2. See paragraphs (0014) through (0016), etc. in Cited Literature 5.

- Claim 9
- Reason 2
- Cited Literature 1, 2, and 4
- · Remarks

See paragraphs (0031) through (0055), Figure 4, etc. in Cited Literature 1.

In particular, Figure 4 and descriptions related to Figure 4 in Cited Literature 1 disclose a GaN MESFET comprising a heterojunction consisting of an n-type GaInN contact layer 14 and an n-type GaN layer 13.

See Figure 3, descriptions related to Figure 3, etc. in Cited Literature 2. See paragraph (0049), etc. in Cited Literature 4.

- Claims 15 and 16
- Reason 2
- Cited Literature 1 through 6
- · Remarks

Regarding the invention according to Claim 15, see Figure 2, descriptions related to Figure 2, etc. in Cited Literature 6.

The n-type GaN protective layer 15 in Cited Literature 6 corresponds to the contact layer in Claim 15.

Regarding the invention according to Claim 16, see Figure 7, descriptions related to Figure 7, etc. in Cited Literature 6.

The  $Al_{0.25}Ga_{0.75}N$  protective layer 45 in Cited Literature 6 corresponds to the undoped AlGaN layer in Claim 16.

#### List of Cited Literature

- 1. Japanese Unexamined Patent Application Publication H09-307097 ✓
- 2. Japanese Unexamined Patent Application Publication 2002-100642
- 3. Japanese Unexamined Patent Application Publication 2000-323495 ✓
- 4. Japanese Unexamined Patent Application Publication 2001-189324 ✓
- 5. Japanese Unexamined Patent Application Publication H08-222579
- 6. Japanese Unexamined Patent Application Publication 2002-359256 ✓

English translations of the foreign-language documents are not readily available; however, English language abstracts are attached. The absence of such translations does not relieve the PTO from its duty to consider the submitted documents (37 CFR §1.98 and MPEP §609).

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

### <u>STATEMENT</u>

The undersigned hereby states in accordance with 37 CFR §1.97(e)(1) that each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three (3) months prior to filing of this Statement.

Atty. Dkt. No. 029437-0108

Appl. No. 10/538,739

The undersigned hereby states in accordance with 37 CFR §1.704(d) that each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart application and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of the information disclosure statement.

**FEE** 

A credit card payment form in the amount of \$180.00 is enclosed in accordance with 37 CFR §1.17(p) to cover the fee associated with an information disclosure statement under 37 CFR §1.97(d) in the amount of \$180.00.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this submission under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

Respectfully submitted,

August 18, 2008

Date

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